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09/785,960	02/16/2001	Yilin Zhao	CS90038	2853

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EXAMINER

FERGUSON, KEITH

ART UNIT	PAPER NUMBER
2683	8

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/785,960

Applicant(s)

ZHAO ET AL.

Examiner

Keith T. Ferguson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 11-15 and 19-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 16-18 is/are rejected.
- 7) ☒ Claim(s) 9 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8</u> . | 6) <input type="checkbox"/> Other: _____  |

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**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-10 and 16-18, drawn to a method for updating a GPS ephemeris data identifier within a receiving node, classified in class 455, subclass 456.1.

II. Claims 11-15 and 20, drawn to a master information block for indicating to a GPS mobile station changes corresponding to a system block, classified in class 455, subclass 430.

III. Claims 21-24, drawn to a method for updating a GPS ephemeris by the age of the ephemeris data, classified in class 455, subclass 427.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I, II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions, group I, group II and group III have different modes of operation.

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3. During a telephone conversation with Mr. Roland K. Bowler II on February 12, 2004 a provisional election was made to without traverse to prosecute the invention of group I, claims 1-10 and 16-18. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-15, 20-24 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

*Claim Objections*

4. Claim 19 is objected to because of the following informalities: Claim 19 is not recited in the application.

*Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-4, 6-8 rejected under 35 U.S.C. 103(a) as being unpatentable over Kingdom et al. in view of Bloebaum.

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Regarding claims 1,4 and 6, Kingdom et al. discloses a method (fig. 3) for updating a GPS ephemeris (almanac) data issue identifier (identity of satellites, clock correction and differential correction) transmitted to a GPS enabled mobile station (MS 200) in a cellular communications network (paragraph 0023 line 1 through paragraph 0026 line 7), comprising: receiving GPS ephemeris (almanac) data at a reference node (Mobile Location Center or MLC) (fig. 2 number 240) from a plurality of satellites (fig. 2 number 280) in communication with a cellular communications network (fig. 2 and paragraph 0023 line 1 through paragraph 0024 line 7); generating (transmitting) an assistance message (assistance GPS data) including GPS ephemeris (almanac) data (clock correction, satellites identity, differential correction) (plurality assistant messages) and other parameters (paragraph 0024 line 1 through paragraph 0025 line 18); generating a GPS ephemeris (almanac) data issue identifier (paragraph 0024 line 1 through paragraph 0025 line 18); receiving updated GPS, ephemeris (almanac) data and other updated parameters (paragraph 0025 line 1 through paragraph 0026 line 6). Kingdom et al. differs from claims 1,4 and 6 of the present invention in that it does not explicit disclose updating the GPS ephemeris (almanac) data issue identifier only when the GPS ephemeris data has been updated. Bloebaum teaches a mobile

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terminal (fig. 2 number 200) for updating the GPS ephemeris (almanac) data issue identifier (old ephemeris data ) (old almanac data) only when the GPS ephemeris data has been updated (paragraph 0032 lines 1-23). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kingdom et al. mobile station with updating the GPS ephemeris (almanac) data issue identifier only when the GPS ephemeris (almanac) data has been updated in order for the mobile station to calculate its position based upon up-to-date ephemeris (almanac) data received from the mobile location center, as taught by Bloebaum.

Regarding claims 2 and 7, Kingdom et al. discloses a method for updating a GPS ephemeris (almanac) data issue identifier as discussed supra in claim 1 above. Kingdom et al. differs from claim 2 of the present invention in that it does not explicitly disclose not updating the GPS ephemeris (almanac) data issue identifier when parameters other than the GPS ephemeris (almanac) data change. Bloebaum teaches a mobile terminal (fig. 2 number 200) for not updating the GPS ephemeris (almanac) data issue identifier (ephemeris) (almanac) data within 4 hours) when parameters other than the GPS ephemeris (almanac) data change (old aiding data) (paragraph 0032 lines 1-23). Therefore, it

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would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kingdom et al. mobile station with not updating the GPS ephemeris (almanac) data issue identifier when parameters other than the GPS ephemeris data change in order for the mobile station to calculate its position to the fullest extent possible without using aiding data assistant from the mobile location center, as taught by Bloebaum.

Regarding claims 3 and 8, Kingdom et al. discloses a method for updating a GPS ephemeris (almanac) data issue identifier as discussed supra in claim 1 above. Kingdom et al. differs from claim 2 of the present invention in that it does not explicit disclose comparing the received GPS ephemeris (almanac) data issue identifier with a corresponding GPS ephemeris (almanac) data issue identifier stored at the mobile station, reading; a corresponding ephemeris (almanac) assistance message at the mobile station only if the received GPS ephemeris (almanac) data issue identifier is different than the stored GPS ephemeris (almanac) data issue identifier. Bloebaum teaches comparing the received GPS ephemeris (almanac) data issue identifier with a corresponding GPS ephemeris (almanac) data issue identifier stored at the mobile station (paragraph 0032 lines 1-23),

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reading; a corresponding ephemeris (almanac) assistance message at the mobile station only if the received GPS ephemeris (almanac) data issue identifier is different than the stored GPS ephemeris (almanac) data issue identifier (paragraph 0032 lines 1-23). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kingdom et al. mobile station with comparing the received GPS ephemeris (almanac) data issue identifier with a corresponding GPS ephemeris (almanac) data issue identifier stored at the mobile station, reading; a corresponding ephemeris (almanac) assistance message at the mobile station only if the received GPS ephemeris (almanac) data issue identifier is different than the stored GPS ephemeris (almanac) data issue identifier in order for the mobile station to replace old ephemeris (almanac) data within the mobile station with new ephemeris (almanac) data to accurately determine its position, as taught by Bloebaum.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kingdom et al. in view of Bloebaum as applied to claim 4 above and in further view of Moeglein et al..

The combination of Kingdom et al. and Bloebaum differs from claim 5 of the present invention in that they do not disclose encoding each of the GPS ephemeris data issue identifiers and a corresponding satellite identifier in a corresponding sequence of binary digits, transmitting the sequence of binary digits over



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the network. Moeglein et al. teaches a GPS reference receiver (fig. 3b) which encoding each of the GPS ephemeris data issue identifiers and a corresponding satellite identifier in a corresponding sequence of binary digits (col. 8 lines 4-36), transmitting the sequence of binary digits over the network (col. 9 lines 25-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Kingdom et al. and Bloebaum with encoding each of the GPS ephemeris data issue identifiers and a corresponding satellite identifier in a corresponding sequence of binary digits, transmitting the sequence of binary digits over the network in order for the mobile location center to update satellite and GPS ephemeris data database in case a mobile station needs assistants when finding its location, as taught by Moeglein et al.

8. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kingdom et al. in view of Chen et al..

Regarding claims 16 and 17, Kingdom et al. discloses a GPS ephemeris data issue identifier (identity of satellites, clock correction and differential correction) for transmission to a GPS enabled mobile station (MS) in a cellular communications network (paragraph 0023 line 1 through paragraph 0026 line 7). Kingdom et al. differs from claims 16 and 17 of the present invention in that it does not explicit disclose a first field with satellite identifier data; and a second field with an ephemeris sequence number, the first field is at least 5 bits, the second field is at least 3 bits. Chen et al. teaches a first field (sub-frame 42-5) with satellite identifier (ID) data (fig. 1a and col. 6 lines 41-40); a second field (sub-frame 42-1) with an ephemeris

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sequence number (fig. 1a numbers 40-1 through 40-18) and each frame consist of 1500 bits. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kingdom et al. ephemeris data issue identifier with a first field containing a satellite identifier data; a second field with an ephemeris sequence number, and the first field is at least 5 bits, the second field is at least 3 bits in order to keep a record of ephemeris data corrections to be broadcast to multiple mobile station so that they could calculate their position, as taught by Chen et al..

Regarding claim 18, Kingdom et al. discloses a broadcast message (paragraph 0024 lines 1-7).

***Allowable Subject Matter***

9. Claims 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 9, the prior art of record fails to teach or suggest, alone or in combination a

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GPS almanac data issue identifier is for a cell, updating the GPS almanac data issue identifier by incrementing a 2-bit data field when the almanac data in the reference node is updated.

Regarding claim 10, the prior art of record fails to teach or suggest, alone or in combination a GPS almanac data issue identifier for a Public Mobile Land Network (PLMN) value tag, updating the value tag by incrementing an 8-bit data field when the almanac data is in the reference node is updated.


#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith T. Ferguson whose telephone number is (703) 305-4888. The examiner can normally be reached on 6:30am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (703) 308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Keith Ferguson   
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February 18, 2004